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| PCIe | <h1>RamSan-20</h1> | 450-GB |
| Flash | | SLC |

- **450-GB Flash Storage**
- **120,000 IOPS**
- **700 MB/sec**
- **Dual ECC Levels**
- **Embedded CPU Controller**



RamSan-20

Direct from Texas Memory Systems (TMS), the RamSan-20 (RS-20) provides Enterprise grade Flash storage for your Server. It is a full feature **PCIe (x4)** Flash storage card designed to greatly speedup applications that require larger and faster data buffer areas.

With its fast PCIe connection, the RamSan-20 has a direct low-overhead connection to main memory that eliminates disk controllers, disk cables, and disk chassis. The RS-20 PCIe card responds **2-5x quicker** and with a **2-5x faster** data transfer rate than Flash disk drives or controllers. Additionally, it has a comprehensive feature set that includes many new Flash oriented management and reliability features.

Features

The RamSan-20 has the features you expect from an Enterprise storage card. It was designed for performance, reliability, and simplicity.

- A Storage System on a PCI card
- Low Overhead, High Performance
- High IOPS, bandwidth, and capacity
- 2 Error checking/correcting methods
- Embedded wear-leveling PowerPC
- Four Flash FPGA controllers
- Includes 2 seconds of extended power
- Quick and Easy to install
- Low Power Required

Automatic Error Checking

Storage data integrity is provided by the use of **SLC** Flash chips with two independent methods of ECC. Each Flash chip incorporates an ECC data field within the chip for initial checking. Additionally, each Flash controller on the RS-20 is responsible for 20 Flash chips that are configured as a RAID-5; thereby, eliminating any single chip failure from corrupted data storage. The Flash wear-leveling algorithm is running on the embedded PowerPC providing real-time quality assurance independent of the host computer.

Applications for a 450-GB PCI Card

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|---------------------------|---------------------|
| Databases | Hot Files |
| Video Editing | Index Files |
| Lookup Tables | Rendering |
| Data Warehousing | Web Content |
| Financial Modeling | Check Points |
| Data Acquisition | Simulations |

RamSan-20 Specifications

| | | |
|------------------|----------------------------|-------------------|
| | Flash Card Capacity | 450-GB |
| | NAND Type | SLC |
| | Block Size | 4-KBytes |
| IOPS | Random Reads | 120,000 |
| | Random Writes | 50,000 |
| | Random R/W, R-70% | 80,000 |
| Bandwidth | Read Bandwidth | 700 MB/sec |
| | Write Bandwidth | 500 MB/sec |
| | Read Latency | 80 μs |
| CPU | PowerPC | 333 MHz |
| Life | With 25% Writes | 12 years |
| Size | PCI-e (x4) | Full size |
| | Power Required | 15 watts |

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